DOCUMENT RESUME

ED 291 147 EA 019 873

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TITLE Instructional Grouping in the Classroom. School Improvement Research Series Close-Up #2.
INSTITUTION Northwest Regional Educational Lab., Portland, Oreg.
SPONS AGENCY Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE Dec 87
CONTRACT 400-86-0006
NOTE 17p.; In: School Improvement Research Series. Research You Can Use; see EA 019 871.
PUB TYPE Information Analyses (070)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Achievement; Elementary Secondary Education; *Grouping (Instructional Purposes); Homogeneous Grouping; *Instructional Effectiveness; Student Attitudes; Student Motivation; *Student Placement

ABSTRACT

The knowledge base regarding use of instructional grouping in the classroom includes findings from research on effective schools, effective teaching, student academic achievement, student perceptions of self and others, student motivation, student attitudes toward school, and student friendships and interactions in the classroom and school. A dominant theme in the research findings is that some types of instructional grouping contribute to more positive academic and affective outcomes for students. Other groupings, particularly stable, long-term groups based on student ability, have an adverse effect on students. This paper synthesizes this research, defining instructional grouping and describing the following approaches: learning cycle groups, cooperative groups, and long-term ability groups. Remaining sections focus on why instructional grouping is used, actions for effectiveness, cautions regarding use of instructional groups, and policy implications with respect to use of instructional groups and teacher training. Thirty-three annotated references are included. (TE)

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*School Improvement Research Series*

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# Instructional Grouping in the Classroom

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# Instructional Grouping in the Classroom

**Beatrice A. Ward**

The knowledge base regarding use of instructional grouping in the classroom includes findings from research on effective schools, effective teaching, student academic achievement, student perceptions of self and others, student motivation, student attitudes toward school, and student friendships and interactions in the classroom and school. A dominant theme in the research findings is that some types of instructional grouping contribute to more positive academic and affective outcomes for students. Other groups, particularly stable, long-term groups based on student ability, have a negative effect upon students.

This Close-Up synthesizes this research for use by teachers, school principals and others who wish to improve the quality and effectiveness of the educational opportunities provided to students in their schools.

## Definition

A classroom has been grouped when the one large group of students assigned to that classroom is divided into a set of smaller groups for some portion of the time they are in the classroom. While in operation, each small group is recognized and treated as a separate and distinct social entity by the teacher and the students in the classroom. To be considered instructional, the activities carried out by students in a small group must include learning of educational material.

## What Types of Instructional Groups Are Used by Teachers?

Teachers place different configurations of students in classroom instructional groups, assign the groups different sorts of learning goals and tasks, evaluate student performance in different ways and maintain group membership for different periods of time. Several types of groups result. More effective teachers use more than one type of group.

### LEARNING CYCLE GROUPS

- Students with similar learning needs are brought together for a short time.
- Students are assigned to groups based on need for additional help, time and practice in order to master the content and skills covered in a particular unit or lesson the teacher already has taught to the entire classroom group.
- Students who have mastered the specific content and skills engage in enrichment activities.

### COOPERATIVE GROUPS

Cooperative groups require students with diverse ability and characteristics to work together and learn from one another to accomplish assigned learning goals or tasks. Recent research has focused on three types of cooperative groups.

EA 019 873

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**Group investigation**

- A small group of four to six diverse students is assigned a topic of study.
- Different students are assigned subparts of the work to be done.
- Completion of assigned tasks requires each student's work to be combined with that of other students to produce a group effort.
- Students may be assigned to play different roles in the group process.
- Task completion is contingent on cooperation.
- The group's collective product is evaluated. Each student's performance is judged based on this evaluation and, in addition, may include an individual score for the subtask completed by the student.
- Group membership changes for different assignments.
- Generally, there is no inter-group competition.

**Peer tutoring**

- A small group of four to six students with a cross section of characteristics is formed to teach information and skills.
- Tasks assigned to groups emphasize material previously taught to the entire class by the teacher.
- Peer tutoring approaches include:

  a. *Team assisted individualization*

  Each student receives an individual assignment based on learning needs.

  The team goal is to help one another complete assigned tasks successfully and to improve each student's performance on a quiz measuring skills and content covered in the student's individual assignment.

  Students receive individual scores.

  The team receives recognition based on amount each student's score exceeds average or past performance on skills and content covered in individual assignment.

  b. *Teams and games*

  After studying content and skills in learning teams (see above), students are combined into tournament groups based on ability.

  Individual student's performance in tournaments contributes to individual and learning team scores.

  Tournament groups are temporary for particular skill or content area.

  Learning teams are stable.

  c. *Jig-saw*

  Material to be learned is broken into sections.

  Each student is to learn a section and then teach it to other team members.

  Each student is tested and graded individually on entire set of material.

  Teams are temporary based on material to be learned.

  d. *Learning together*

  A small group is given one assignment sheet. The group completes and hands in this single assignment.

  Evaluation is based on how well students work together to complete the assignment sheet and performance on completed sheet.

**Concept development**

- Small groups of four to six students are formed. Generally the students in each group have diverse characteristics.

- Tasks assigned to groups are complex, e.g., tasks with more than one answer or way to solve a problem.

- Groups engage in learning activities such as re-enactment of historical events; dramatizations; instructional games; and development of fictional events, countries or governments, and so forth.

- Students plan what to do and assign subtasks, if any, to students based on group plans.

- Evaluation frequently includes qualitative as well as quantitative rating of final products.

- Teams are temporary.

**LONG-TERM ABILITY GROUPS**

- Students are assigned to groups based on academic ability.

- Changes in group assignments occur only when a student's academic performance changes.

  — Assignments seldom change. For the most part, a student's assignment to an ability group level in kindergarten will be maintained through grade three and beyond.

  — Most changes are based on factors other than achievement, e.g., social behavior and neatness, and are to a lower rather than higher ability group.

- Learning in small group is teacher-directed.

- Instruction may be provided in a "pull-out" situation in which students are taught by a different teacher from the one who teaches the class. Group instruction may take place in a setting outside the regular classroom.

- Students are evaluated individually.

## Why Is Instructional Grouping Used?

**TO ASSURE THAT ALL STUDENTS LEARN**

- Total classroom groups typically include students with a variety of characteristics.

  — Students differ in mastery of the skills and knowledge prerequisites for successful learning in that classroom.

  — Students differ in the time needed for learning a given unit of material or to attain a particular educational objective. The slowest 10 percent of students need 2.4 to 6 times as much time as the highest 10 percent.

  — Students differ in race, sex, socioeconomic level of parents and age.

  — Students differ in self-concept, interest in school, motivation to learn and personal education goals.

- Accommodating such student heterogeneity is one of the most troublesome and enduring problems faced by teachers.

- Both high and low ability students do better academically in classes where the total group includes students with a wide range of academic ability. The impact is greater on low ability students. There is no difference in average ability students' academic performance in classes that are academically heterogeneous or homogeneous.

- Short-term lesson-by-lesson instructional groups provide review, practice and enrichment opportunities that effectively meet the diverse learning needs of students in a heterogeneous classroom.

- Although instructional grouping is used to reduce the range of differences in the students being taught at a given point in time, the abilities of students in the various groups, even long-term ability groups, overlap considerably.

- Most studies of small group versus whole class instruction find greater learning on the part of students when the teacher uses small instructional groups for at least part of the time.
  - — High and low ability students benefit more than average students.
  - — Achievement gains are less clear in mathematics than reading. In math, students in peer tutoring groups show more significant gains in math computation than in math concepts and applications. Students who complete group investigation tasks acquire more high level math skills than those engaged in total class instruction.
  - — Cooperative group experiences increase girls' achievement more than boys'.
  - — Student achievement in instructional groups is related to the teacher's ability to solve classroom management problems associated with the use of small groups.
- An exception to student achievement gains occurs in long-term ability groups.
  - — Positive achievement effects are found only for high ability students, and these results occur only in some studies.
  - — No effects occur for moderate ability students beyond the learning that occurs when these students are taught in a total classroom setting.
  - — Harmful effects are identified for low ability students. Pull-out low ability groups have a particularly adverse impact upon the performance of low ability students.
- In desegregated classrooms, cooperative learning groups produce significant gains in academic achievement for minority group students.
- In cooperative groups, students who help others by providing explanations or demonstrations of how to complete assigned tasks gain more in achievement than students at the same ability level who are recipients of help.
- Group investigations, particularly ones that do not include competition between teams, promote use of abstract thinking, problem solving, and critical thinking skills.
- Students change over time. This should lead to changes in their instructional grouping.
  - — When ability groups are used, exit criteria should be specified so it is clear when a student should be moved to another group.
  - — When teachers do not give specific attention to accommodating changes in students and have no criteria for exiting an ability group, student assignments to ability groups remain stable. At most, six percent of the students in a classroom will be moved from one group to another. And, for the most part, these changes will be based on students' nonacademic characteristics or performance.

**TO INCREASE STUDENT ENGAGEMENT IN LEARNING**

- High levels of student on-task time occur in small groups. In particular, low ability students spend much less time off task in cooperative small group situations than in total class instruction largely because they spend less time in waiting for instructions and feedback.
- Engagement of low ability students decreases as the diversity of the students in the small group decreases. When all students in a group are low ability and their placement in the group extends for more than a few days, these low ability students have almost twice as much off-task time as students asigned to long-term high ability groups. This occurs even when the teacher directs the low group.
- A factor related to high engagement rates in instructional groups is the success rate students must have to learn effectively.

When students receive immediate feedback, as they do in some groups, only a 70 to 80 percent success rate is required. When students work on their own in a total class seatwork situation, an initial success rate of 95 to 100 percent is required.

- Formation of lesson-by-lesson groups based on differences in students' learning needs reduces the amount of review and practice time needed by all students to achieve high success. However, students who are assigned repeatedly to groups that receive more review and practice time than other groups, over time, require ever increasing amounts of review and practice to achieve mastery of the skills and knowledge covered in later lessons.

- Student engagement rates in instructional groups are related to interactions among students and between the teacher and students. Interactions that increase student engagement include:

  — Receipt of helping behavior from other students that explains but does not give answers

  — Providing help to others

  — Interaction with the teacher that is substantive rather than procedural or behavior-control oriented

  — Rewards based on both individual and group performance

- Formation of too many small groups creates supervision and management problems which reduce learning time.

**TO TEACH STUDENTS HOW TO WORK WITH OTHERS**

- Small groups teach students when to perform work on their own and when it is proper to seek the assistance and knowledge of others.

- Students learn to cooperate with others when assigned group tasks that require each student to complete a subpart of the task. Individual learning effort also increases.

- Students' perceptions of other students as helpful and cooperative rather than competitive increases when students engage in cooperative group activities.

- Students who engage in small group activities for some of their instructional time decide how to do school work more quickly and freely than students who only engage in total class, teacher-directed instruction. They also show more self-initiative and assume greater individual responsibility for completion of assigned tasks.

- Students who participate in group investigation and concept development groups acquire negotiation, consensus and compromise skills.

**TO FACILITATE SOCIAL INTERACTION AMONG STUDENTS**

- The more interdependent the group activities in which students engage, the more positive the prosocial outcomes are for the students.

- Group membership influences student friendships in and out of the classroom and school.

  — Cooperative groups encourage friendships among students of diverse ability and social levels.

  — Long-term ability groups limit student friendships. Higher ability students refuse to interact with students who are not in their group.

- In most small groups, students' liking for students in one group increases without loss of liking of other members of the class. Long-term ability groups are an exception.

- When classroom instruction in a subject area takes place mainly in cooperative, student-directed groups, no academic hierarchy is found relative to student interactions and students' perceptions of other students.

- Cooperative groups promote greater contact, trust, acceptance and support

among students of different races, social classes, achievement levels and sexes.

- Handicapped students interact more with non-handicapped students when placed in small cooperative groups. They also give more management input to learning activities. They receive more academic support from their non-handicapped peers.

- Non-handicapped students become more open-minded regarding handicapped students and the ideas they provide when they work with handicapped students in cooperative groups.

**TO MOTIVATE STUDENTS**

- Peer tutoring groups motivate students to review and rehearse material until they know it.

- Students who participate in groups other than long-term ability groups show more interest in classroom activities.

- The general classroom tone is more positive and friendly when cooperative groups are used for some of the instruction that takes place.

- Group tasks which require students to combine subtasks into a total group project increase student commitment to completion of tasks.

**TO IMPROVE STUDENTS' SELF-CONCEPTS AND ATTITUDES TOWARD SELF AND SCHOOL**

- Students who participate in learning teams and short-term ability groups have more positive self-concepts than students who do not.

- Cooperative groups promote a stronger belief that one is liked and accepted by other students.

- Cooperative group experiences contribute to positive student attitudes toward self, academic ability, school and classmates.

- Self esteem increases markedly when students participate in cooperative groups.

- Long-term assignment to an ability group or competition between cooperative groups has a negative effect upon the self-esteem of average and lower ability students. Impact is greatest for students in groups that are not successful in completion of assigned tasks or in team competition.

- Placement in long-term ability groups influences students' perceptions of self regardless of the school the students attend. When long-term reading groups are established in schools serving high socioeconomic neighborhoods, children placed in lower groups think they are less talented than other students even though they would be considered model students in another setting. Some become convinced they cannot learn to read.

- Students who engage in small group activities for a particular subject area like that subject better than students who are taught in total class groups.

- In competitive situations, high ability students attribute more ability to self than others. In cooperative groups, there is no difference in self-other ability attribution by these students.

**TO TEACH STUDENTS HOW TO LEARN IN A VARIETY OF WAYS**

- Most small group activities do not involve direct instruction by the teacher. Students are responsible for gathering information, coordinating work, helping one another and solving problems. Students learn from one another.

- Group interaction about how to complete assigned tasks leads students to seek additional information and to approach existing information from new perspectives.

- Particularly in group investigation and concept development groups, learning tasks expand beyond the listening, reading and writing tasks that predominate in total class instruction. Interviewing, role playing, model building, illustrating and observing are used.

## Actions For Effectiveness

### TEACHER PRE-PLANNING AND PREPARATION

#### Tasks to be completed

- The tasks a group is to carry out should determine the type of instructional group to be used.
  - — Learning cycle or peer tutoring groups are effective for review and practice purposes.
  - — Group investigation or concept development groups effectively teach problem solving and other cognitive skills and understandings.
- Advance planning of tasks to be completed increases students' success in group activities.
  - — Advance assignment of group process roles to specific students facilitates student interaction in a cooperative group.
  - — Advance specification of qualitative requirements for successful completion of open-ended tasks increases students' ability to achieve desired outcomes.
- Task assignment should take group interaction into consideration.
  - — Group tasks that are subdivided among students and require combining of individual work to produce a total group product promote interaction among diverse students.
  - — Manipulative, multimedia and other tasks that are not all reading and writing reduce the tendency for high status students to dominate group activities.
  - — Tasks which give specific students exclusive access to certain pieces of needed information counter domination of group activities by strong students.

#### Group size

- Instructional groups with four to six students are more effective than larger groups.

#### Group composition

- Group composition should be planned to ensure equal participation among group members.
- A mixture of students with different ability levels promotes helping behavior in a group. The more homogeneous the group, the less help is given to students who ask questions.
- Groups that include students with diverse racial and ethnic backgrounds encourage interaction and friendship among diverse students at the classroom and school as well as the group level.

#### Roles and responsibilities

- When they are first introduced to group work, students will not know how to behave. The teacher must specify subtasks and assign responsibility for completion of them. Later, students can assume these roles and responsibilities.
- Group interaction improves when a student is assigned to serve as group facilitator. The facilitator assures that everyone in the group contributes ideas, asks for help, helps others and listens.
- Class leaders should not always be assigned group leadership roles.

### ADVANCE TRAINING OF STUDENTS

- Equality of both status and participation in instructional groups increases when students are taught norms for cooperative behavior and group process skills. In particular, the participation of average and low ability students increases.
- Practice work sessions are required to teach group norms and skills to students. In these sessions, students carry out tasks similar to those they will complete when instructional groups are functioning. But,

the products produced during practice sessions are not evaluated.

- Assigning one student in a group to observe group members' use of cooperative norms and group process skills and report back to the group and teacher on the group's performance is an effective training strategy.

- Students who receive training in how to function in various types of instructional groups exhibit more task related interaction, give more higher order explanations to one another, and provide fewer answers to other students' worksheets than students who are not trained.

- White dominance in groups that include students from diverse races is lessened when minority students receive special, advance training on academic and nonacademic tasks and then teach them to the white students in their groups.

## EFFECTIVE TEACHING SKILLS

For instructional groups to work, the teacher must solve the management, motivation, and direct instruction needs of students. Both the teacher and students can help do this.

### Classroom organization and management

- Resources to be used by students in instructional groups should be readily available.

- Physical arrangement of classroom to provide separate work areas for groups increases students' attention to group tasks.

- When the teacher is working with an instructional group, interruption of teacher-student interaction by students from other groups should not be allowed.

### Clarity

- Tasks to be completed and expectations for high quality performance must be clear to all students in an instructional group.

- Roles and responsibilities of students in a group must be clear to all students.

- Use of written instructions for each instructional group increases clarity of teacher directions and explanations.

### Monitoring

- Teacher monitoring of student behavior during instructional group work requires attention both to group process factors and to the individual student's time on task and task completion success.

- Procedures for monitoring the work of other groups while working with one group must be established by the teacher. Designation of one or more students to monitor on-task behavior in each group helps with this aspect of effective teaching.

- Formal record keeping regarding students' mastery of subject area content and skills and their use of group process and other social skills helps the teacher keep abreast of the progress of individual students. It also facilitates provision of review, practice and enrichment experiences to groups and to individual students on a timely basis.

### Reinforcement and feedback

- Students working in instructional groups need feedback on how they are doing just as students need such input in large group, direct instruction situations.

- In instructional groups, teacher feedback and reinforcement should attend to students' use of group process skills in addition to time on task and success in task completion.

- When group process feedback is given, it should focus on specific processes and not the reasons for students' successful or unsuccessful use of the process at that point in time.

- The temptation for off-task behavior increases when group activities are inadequately understood. The teacher must be alert to this problem and provide corrective feedback regarding both task assignments and student engagement when a group is not on task.

- The purpose and functions of most instructional groups call for delegation of some feedback and reinforcement responsibility to the students in each group. This should be clear to students. They should be taught how to provide instructional feedback.

- Indicators should be established that help students determine when to obtain teacher assistance with instructional or behavioral matters.

**Substantive teacher time**

- In an instructional group, teacher-student interaction that focuses upon student acquisition of the content to be mastered and the group processes to be followed constitutes substantive teacher time. Behavior management and attention to irrelevant content do not.

- Teacher assistance and direction at crucial steps in the students' thinking/analysis process are particularly important when instructional groups are used. Provision of such assistance is facilitated if students are trained to alert the teacher when they arrive at group decision making points.

- Teacher prompting of students to try out the ideas of everyone in the group before they arrive at a plan of action is part of substantive teacher time in some instructional groups.

**EVALUATION**

- The group reward structure plays an important part in students' achievement gains in instructional groups. Group rewards enhance the learning of individual students only if group members are held individually accountable and rewarded for their own learning as well as for the group's products and performance.

- The group reward structure can promote or discourage student cooperation. Use of group-level rewards or recognition encourages cooperation. Evaluation of each individual student's contribution to a group score discourages cooperation. It should **not** be done.

- When performance of lower ability students is weighted so it counts as much as toward group scores as that of higher ability students, the quantity and quality of contact among team members improves.

- Wrap-up sessions which evaluate students' success in working together are an important part of instructional group work.

**REVIEW OF GROUP COMPOSITION**

- Frequent and regular review of group composition and changes in students' group assignments are essential. They counteract the tendency to maintain student placement in an inappropriate ability group and reduce the student domination and interpersonal conflicts that tend to build up when groups remain stable.

- Appropriateness of student placement in all types of instructional groups is increased when placement decisions are made by a team of teachers. This is the case even though the groups include students from only one class. The additional questions and insights brought to the decision making by non-involved teachers increase the objectivity of student assignment.

- When long-term ability groups are used, advance scheduling of required dates for review of student placement is recommended.

## Cautions Regarding Use of Instructional Groups

**PERMANENCE OF GROUP**

- Failure to change group composition on a frequent basis can lead to students' roles and interactions within a group being influenced more by students' socioeconomic status than by assigned tasks and responsibilities.

- Long-term assignment to any type of group works against the positive outcomes of instructional grouping.

## TEACHER PERCEPTIONS AND EXPECTATIONS AND GROUP ASSIGNMENT

- Students' basic, higher cognitive and social skills **must** serve as the major criteria for assignment of students to groups.
- When specific information regarding students' knowledge and skill development is not used to determine group assignments, teacher bias enters in.
  - — Perceived capacity to profit from instruction rather than ability may serve as the criterion for group assignment.
  - — Race, physical attractiveness and teacher perception that a student works hard may influence student assignment.
  - — Immature and inattentive students are placed in less demanding groups regardless of their academic abilities.
  - — Students' ability to interact with adults may influence the leadership responsibilities they are assigned in groups. In desegregated classrooms, students from higher socioeconomic families will be given more demanding roles.

## IMPORTANCE OF GROUP PLACEMENT

- Teachers, school principals, parents and students must be aware that long-term assignment to ability groups has a negative impact upon students' learning. In particular, the educational opportunities provided to low ability students are significantly reduced.
- If long-term ability groups are used, teachers must make a concerted effort to overcome the differences in teacher-student interaction that occur in low ability as compared with high and average ability groups.
  - — An extensive array of research studies indicates that teachers teach differently in long-term low ability groups. The teacher behaviors that are observed have been found to be **negatively** related to the performance of students at any ability level. They are particularly harmful for low ability students.
  - — Some of the differences in teacher behavior that have been observed in low compared with other ability groups include:
    - + Teachers wait less time for students to answer.
    - + Teachers provide briefer and less informative feedback.
    - + Teachers demand less in order for students to obtain positive reinforcement.
    - + Teachers criticize the students more frequently.
- Long-term placement of students in any type of group may give some students inappropriate messages regarding their status as classroom leaders and their ability to learn.

## INSTRUCTION IN PULL-OUT GROUPS VS. REGULAR CLASSROOM INSTRUCTION

- Pull-out groups generally provide materials and instruction that are incompatible with the teaching methods and materials used in the student's regular classroom.
- Pull-out groups that provide supplementary basic skills instruction generally demand that low ability students adjust to variations in instruction and teacher behavior which other students are not required to do. This increases the complexity of the learnig experiences of low ability students but not the other students.
- Pull-out groups magnify the message that students in low ability groups cannot learn and that high ability students receive special privileges.

**CHANGES IN THE ROLE OF THE TEACHER REQUIRED BY INSTRUCTIONAL GROUPS**

- In cooperative groups, students become resources for providing feedback and follow-up explanations and demonstrations for other students. They also answer one another's questions. To capitalize upon this resource, teachers who use instructional groups should train students to provide such help and monitor how well students are performing these responsibilities.

- Teacher-student interactions serve planning as well as instruction and evaluation purposes in some instructional grouping situations.

- Teacher feedback, reinforcement and monitoring functions are applied at the group and at the individual student level.

- Most teachers use instructional groups more effectively if they are trained in the organization, management, monitoring and conduct of various sorts of groups.

## Policy Implications

**USE OF INSTRUCTIONAL GROUPS**

- Instructional groups should be used for specific instructional purposes. They should not be the only mode of instruction in a classroom or subject matter area.

- Teacher presentation of new information and skills should be done in a total-class, direct instruction setting. Instructional groups should be used for review, drill and practice activities or for expanded investigation of subject areas.

- Use of long-term ability groups based on student ability should be reduced.

- Pull-out instruction of students based on academic ability should not occur.

- If long- or short-term ability groups are used, instruction should be monitored to assure that the quality of instruction and the learning climate is consistent across all the groups.

**TEACHER TRAINING**

- Before instructional grouping is used in a school, teachers should be trained in the use of one or more types of groups and the aspects of teacher-student interaction that require particular attention when a particular type of group is used.

- It is preferable for teachers to be trained in the use of several types of instructional groups so they can use different groups for different instructional purposes.

- Training two or more teachers in a school to use various types of groups facilitates implementation of instructional grouping in their own classrooms and in other classrooms in the school.

- When instructional groups are used, teachers should be given time to work together to develop group activities, to define the roles to be assigned to students in the groups and to review student placement in groups.

## Key References


Abadzi, H. "Ability Grouping Effects on Academic Achievement and Self Esteem: Who Performs in the Long Run as Expected." *Journal of Educational Research*, 79:1, 36-40, September/October 1985.

Reports on the effects over a five-year period of long-term ability grouping on high achievement and regular students' academic performance and self-concept.

Calfee, R. and Brown, R. "Grouping Students for Instruction." In D. L. Duke (Ed.), *Classroom Management* (Seventy-eighth yearbook of the National Society for the Study of Education). Chicago, IL: University of Chicago Press, 144-181, 1979.

Compilation of research on the structure and function of instructional groups and recent innovations in instructional grouping.

Cohen, E. C. . "On the Sociology of the Classroom." In J. Hannaway and M. E. Lockheed (Ed.), *The Contributions of the Social Sciences to Educational Policy and Practice: 1965-1986*. Berkeley, CA: McCutchan Publishing Corp, 127-162, 1986.

A review of recent sociological research on the social system of the classroom. Information regarding instructional grouping is presented throughout the chapter.

Faltus, R. *Cooperative Small Groups*. (Training and Research Manual, Vol. I, Education and Dissemination Program). Washington, DC: American Federation of Teachers, 1985.

Manual used in AFT teacher training program. Includes summary of research on cooperative small groups, training exercises for teachers, and suggested activities for training students to work in small groups.

Good, T. L. "What is Learned in Elementary Schools." In T. M. Tomlinson and H. J. Walberg (Ed.), *Academic Work and Educational Excellence*. Berkeley, CA: McCutchan Publishing Corp., 87-114, 1986.

This book presents 12 papers that were prepared for the National Commission on Excellence in Education summarizing research on various aspects of education. This chapter includes information on the consequences for students and teachers of tracking, ability grouping and pull-out instruction.

Good, T. L. and Weinstein, R. S. "Teacher Expectations: A Framework for Exploring Classrooms." In K. K. Zumwalt (Ed.), *Improving Teaching* (1986 ASCD Yearbook). Alexandria, VA: Association for Supervision and Curriculum Development, 63-85, 1986.

Summarization of research on the relationships between teacher expectations and students' schooling experiences. A major section of the chapter deals with grouping effects.

Hallinan, M. "Summary and Implications." In P. L. Peterson, L. C. Wilkinson and M. Hallinan (Ed.), *The Social Context of Instruction: Group Organization and Group Process*. Orlando, FL: Academic Press, 229-240, 1984.

Summarizes information on instructional grouping presented by the various chapter authors.

Rosenbaum, J. E. "Social Implications of Educational Grouping." In D. C. Berliner (Ed.), *Review of Research in Education*. Washington, DC: American Educational Research Association, 361-401, 1980.

Compilation of research literature to answer questions about the influence ability grouping has upon student achievement, teaching methods, social identities and attitudes. The chapter also explores the effects of curriculum grouping (or student tracking).

Sharon, S. "Cooperative Learning in Small Groups: Recent Methods and Effects on Achievement, Attitudes and Ethnic Relations." *Review of Educational Research*, 50:2, 241-272, Summer 1980.

Reviews five approaches to cooperative group learning and summarizes experimental studies of each approach.

Slavin, R. E. "Cooperative Learning." *Review of Educational Research*, 50:2, 315-342, Summer 1980.

Summarizes research on use of cooperative learning groups in urban, suburban and rural schools.

Slavin, R. E. and Karweit, N. L. "Effects of Whole Class, Ability Grouped, and Individualized Instruction on Mathematics Achievement." *American Educational Research Journal*, 22:3, 351-369, Fall 1985.

Compares the achievement and attitudinal effects of three mathematics instructional methods directed toward accommodating diversity in student performance levels.

Swing, S. R. and Peterson, P. L. "The Relationship of Student Ability and Small Group Interaction to Student Achievement." *American Educational Research Journal*, 19:2, 259-274, Summer 1982.

Reports data regarding the effects of advanced training of students in small-group interaction on their later performance and learning in small cooperative groups.

Webb, N. M. Student Interaction and Learning in Small Groups. *Review of Educational Research*, 52:3, 421-445, 1982.

A review of research on the student interaction processes that occur in small groups, particularly cooperative groups. Three aspects of group learning are examined: (1) the relationships between interaction and achievement, (2) cognitive process and social-emotional mechanisms bridging interaction and achievement and (3) characteristics of the individual, group and reward structure that predict interaction in small groups.

## Other References

Arlin, M. "Time Variability in Mastery Learning." *American Educational Journal*, 12:1, 103-120, Spring 1984.

Looks at the time students of various ability levels need to master basic mathematics skills.

Ames, C. "Competitive Versus Cooperative Reward Structures: The Influence of Individual and Group Performance Factors on Achievement Attributions and Affect." *American Educational Research Journal*, 18:3, 273-288, Fall 1981.

Report of a study of students' attributions for and affective reactions to success and failure when students who work together are rewarded for their combined effort and when only the student who solves the most problems is rewarded.

Beckerman, T. M. and Good, T. L. "The Classroom Ratio of High- and Low-Aptitude Students and its Effects on Achievement." *American Educational Research Journal*, 18:2, 317-328, Fall 1981.

Looks at the impact both on teacher and student performance of the range of heterogeneity of students assigned to a classroom.

Borko, H., Cone, R., Russo, N. A. and Shavelson, R. G. "Teachers' Decision Making." In P. L. Peterson and H. J. Walberg (Ed.), *Research on Teaching*. Berkeley, CA: McCutchan Publishing Corp, 1979.

Describes the interplay between student behavior, task, demands and instructional decisions.

Brophy, J. E. "Classroom Organization and Management." *The Elementary School Journal*, 83:4, 265-286, March 1983.

Summarizes research on how successful teachers organize and manage their classrooms. Includes a discussion of grouping in the classroom.

Cohen, E. "Expectation States and Interracial Interaction in School Settings." *Annual Review of Sociology*, 8, 209-230, 1982.

The article includes information on the use of cooperative small groups in classrooms serving Hispanic and Anglo students.

Evertson, C. M., Sanford, J. P. and Emmer, E. T. "Effects of Class Heterogeneity in Junior High School." *American Educational Research Journal*, 18:2, 219-232, Summer 1981.

Reports findings regarding class heterogeneity and teachers' successful adaptation of instruction to individual student academic and attentive needs.

Gettinger, M. "Achievement as a Function of Time Spent in Learning and Time Needed for Learning." *American Educational Research Journal*, 21:3, 617-628, Fall 1984.

Presents information regarding the effects of spending less time than needed in learning.

Haller, E. J. "Pupil Race and Elementary School Ability Grouping: Are Teachers Biased Against Black Children?" *American Educational Research Journal*, 22:4, 465-484, Winter 1985.

The article reports on the relationship between the teachers' remarks while engaged in the process of grouping children and the racial composition of the groups they actually formed.

Haller, E. J. and Davis, S. A. "Does Socioeconomic Status Bias the Assignment of Elementary School Students to Reading Groups?" *American Educational Research Journal*, 17:4, 409-418, Winter 1980.

Found that students' achievement played a more important role in student placement in ability groups than family SES.

Hallinan, M. T. and Sorensen, A. B. "Ability Grouping and Student Friendships." *American Educational Research Journal*, 22:4, 485-500, Winter 1985.

Presents data showing that long-term ability groups limit students' friends.

Johnson, D. W. and Johnson, R. "Classroom Conflict: Controversy Versus Debate in Learning Groups." *American Educational Research Journal*, 22:2, 237-256, Summer 1985.

Compares effects of student work in small groups when they are instructed to work in three modes: cooperative controversy, cooperative debate and individualistic learning.

Marsh, H. W. "Self-Concept, Social Comparison and Ability Grouping: A Reply to Kulik and Kulik." *American Educational Research Journal*, 21:4, 799-806, Winter 1984.

Reports information showing that ability grouping is likely to have substantive effects upon self-concepts within different ability groups.

Owens, L. and Barnes, J. "The Relationships Between Cooperative, Competitive and Individualized Learning Preferences and Students' Perceptions of Classroom Learning Atmosphere." *American Educational Research Journal*, 19:2, 182-200, Summer 1982.

Reports a study that linked attitudes toward different approaches to learning and student perceptions regarding the press to learn in a certain way to achievement.

Peterson, P. L. and Fennema, E. "Effective Teaching, Student Engagement in Classroom Activities, and Sex-Related Differences in Learning Mathematics." *American Educational Research Journal*, 22:3, 309-335, Fall 1985.

Includes information on engaged time of boys and girls when they participate in math activities that involve cooperation or competition among students.

Rist, R. C. *The Urban School: A Factory for Failure*. Cambridge, MA: MIT Press, 1973.

Describes the first three years of schooling and the impact of various school and classroom level decisions and actions upon students' learning opportunities. Offers indepth insight into teachers' decisions regarding student placement in instructional groups and the effects thereof.

Sindelar, P. T., Rosenberg, M. S., Wilson, R. J. and Bursixk, W. D. "The Effects of Group Size and Instructional Method on the Acquisition of Mathematic Concepts by Fourth Grade Students." *Journal of Educational Research*, 77:3, 178-183, January/February 1984.

Reports findings regarding the effects upon students' time on task of group sizes of one, three, or six students and teacher-led lesson, teacher-led follow-up and supervised seat work.

Slavin, R. and Karweit, N. L. "Mastery Learning and Student Teams: A Factorial Experiment in Urban General Mathematics Classes." *American Educational Research Journal*, 21:4, 725-736, Winter 1984.

Article reports on the instructional effectiveness of team work and team rewards.

Talmage, H., Pascarella, E. T. and Ford, S. "The Influence of Cooperative Learning Strategies on Teacher Practices, Student Perceptions of the Learning Environment and Academic Achievement." *American Educational Research Journal*, 21:1, 163-180, Spring 1984.

Provides data regarding training of teachers in the use of cooperative learning strategies and effects upon the learning environment of the classroom and students' achievement.

Webb, N. M. and Cullian, L. K. "Group Interaction and Achievement in Small Groups: Stability Over Time." *American Educational Research Journal*, 20:3, 411-424, Fall 1983.

Provides information regarding the types of student interaction that promote learning in small instructional groups.

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This publication is based on work sponsored wholly, or in part, by the Office of Educational Research and Improvement (OERI), U.S. Department of Education, under Contract Number 400-86-0006. The content of this publication does not necessarily reflect the views of OERI, the Department, or any other agency of the U.S. Government.